(Brazil). The prevalence of skin-prick test reactivity ranged from 1.7% (Ghana) to 45.3% (Hong Kong). The association between current wheeze and skin-prick test reactivity was stronger in affluent countries (odds ratio: 4.0 [95% confidence interval: 3.5–4.6]) than nonaffluent countries (odds ratio: 2.2 [95% confidence interval: 1.5–3.3]). The population attributable fraction (PAF), or fraction of current wheeze attributable to skin-prick test reactivity, ranged from 0% (Turkey) to 59.6% (Hong Kong). Overall, the combined PAFs were substantially higher in affluent countries (40.7%) than in nonaffluent countries (20.3%).

CONCLUSIONS. The authors concluded that the link between atopic sensitization and asthma symptoms in children differs strongly between populations and increases with economic development.

REVIEWER COMMENTS. The variation in rates of asthma and allergy around the world is striking, and the fact that the relationship between allergy and asthma seems related to the level of economic development in any given country is fascinating. The authors speculated that this may be a result of exposures or other factors that are different for children in more or less affluent countries that make it more or less likely that allergy would lead to asthma. Such factors could include greater exposure to helminth infections or different commensal bacteria in poorer countries and higher rates of urbanization and obesity in wealthier countries.

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ALLERGENS AND ENVIRONMENTAL EXPOSURES

Children’s Respiratory Health and Mold Levels in New Orleans After Katrina: A Preliminary Look

PURPOSE OF THE STUDY. To study indoor air mold levels, lung function, and respiratory symptoms in a sample of children returning to live in New Orleans, Louisiana, immediately after Hurricane Katrina.

STUDY POPULATION. Participants were children aged 7 to 14 years currently residing in greater New Orleans with no plans to move. All study participants were recruited from a private primary school in the Garden District of New Orleans.

METHODS. Parents of all study participants completed a respiratory health symptom questionnaire during February/March and April/May 2006. During these defined study points, the children performed spirometry, and indoor and outdoor air sampling was performed. All data were statistically analyzed to determine if indoor mold levels correlated to the children’s respiratory health.

RESULTS. Average indoor and outdoor mold concentrations decreased during the study, although only the reduction in outdoor mold levels reached statistical significance. Pulmonary function of all study participants was >80% of predicted at both study points. Participants were stratified according to asthma history and flooding status, but no lung-function decrements were observed with stratification. A trend was seen in which respiratory symptoms increased after the hurricane and seemed to improve during the study. This difference, however, was only statistically significant for lower respiratory tract symptoms.

CONCLUSIONS. Indoor mold levels were low and pulmonary function in a sample of children living in New Orleans was normal >6 months after Hurricane Katrina.

REVIEWER COMMENTS. The Children’s Respiratory Health Study is the first published study to evaluate pediatric respiratory health and indoor mold in the post–Hurricane Katrina environment. Although a small sample size was evaluated, this study provides practitioners with objective, reassuring findings. This study, however, included children who were exposed to limited flood damage. This possible selection bias should not allow us to ignore respiratory symptoms in the pediatric population returning to the more damaged neighborhoods. We look forward to further research studying this at-risk pediatric population.

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Outcome of a Randomized Multifaceted Intervention With Low-Income Families of Wheezing Infants

PURPOSE OF THE STUDY. To evaluate whether a secondary intervention applied to infants with a history of multiple wheezing episodes can prevent early asthma and reduce asthma severity and morbidity.

STUDY POPULATION. This study identified 149 children from low-income urban families in the Denver, Colorado, area with ≥3 wheezing episodes before the age of 24 months. These children were followed until they reached 4 years of age.

METHODS. Families were randomly assigned to a 12-month intervention or control group. Home intervention con-
sisted of nursing visits designed to decrease environmental allergen and tobacco-smoke exposure and improve the quality of maternal caregiving and illness management. Psychosocial information was used to individualize plans for behavior change.

RESULTS. The percentage of children with asthma at 4 years of age did not differ significantly between the 2 groups (intervention and control) \( (P = .33) \). However, among children with lower symptom severity at study entry, the odds of developing asthma were 3 times lower for those in the intervention group \( (P = .04) \). Caregiver quality of life was significantly better \( (P = .01) \) and symptom severity was lower \( (P = .03) \) for those in the intervention group. It is interesting to note that asthma rates did not differ significantly for children whose mothers had asthma or for those found to be atopic \( (\geq 1 \) positive skin-test result).

CONCLUSIONS. Multifaceted intervention was unsuccessful as a secondary intervention in decreasing the development of asthma in this cohort as a whole. However, asthma development was ameliorated in children with low symptom severity in infancy.

REVIEWER COMMENTS. The nonmedical interventions, performed in a relatively small cohort, were ineffective in altering the progression from infant wheezing to persistent asthma at 4 years of age. However, they did have a significant positive effect on the caregivers’ quality of life compared with those in the control group. The authors hypothesized that children with lower severity at baseline may be more susceptible to changes in environmental exposures or illness-related caregiving. However, the study did not ensure that children with more severe symptoms received appropriate treatment with inhaled corticosteroids or that the medications were administered appropriately. This may explain why only children with milder disease benefited from environmental interventions. The investigators plan to follow these children until the age of 7 years.

STUDY POPULATION. The authors studied children between the ages of 1.5 and 6 years who were attending 687 child care centers in Singapore.

METHODS. This study used a cross-sectional design, adopting an expanded and modified International Study on Asthma and Allergies in Childhood (ISAAC) questionnaire for the evaluation of asthma and allergies in 6794 children attending 120 randomly selected child care centers. Specific information on demographics and ETS exposures was obtained. Adjusted prevalence ratios (PRs) and 95% confidence intervals (CIs) were determined by using Poisson multivariate regression with a log-link function and robust variance estimates as recommended for cross-sectional studies.

RESULTS. The response rate was 70.0%, and 4759 children from 97 centers participated. After adjusting for covariates, it was found that home ETS exposure was associated with increased risks of current symptoms of rhinitis \( (PR: 1.23 \ [95\% CI: 1.01–1.50]) \) and rhinoconjunctivitis \( (PR: 1.79 \ [95\% CI: 1.26–2.54]) \). These associations followed dose-response trends with respect to the number of cigarettes smoked or smokers in the home. Home ETS exposures were also associated with higher PRs of wheeze, nocturnal cough, and doctor-diagnosed asthma. Compared with paternal smoking, higher risks of the above-listed outcomes were found for maternal smoking.

CONCLUSIONS. Home ETS exposure is a risk factor associated with rhinitis and asthma among preschool-aged children.

REVIEWER COMMENTS. This article provides additional evidence that exposure to ETS is associated with asthma and rhinitis. These findings support the continued need to discuss the risks of ETS exposure when reviewing anticipatory guidance items with families.

TOBACCO AND AIR POLLUTION

Home Exposures to Environmental Tobacco Smoke and Allergic Symptoms Among Young Children in Singapore


PURPOSE OF THE STUDY. To investigate the association of environmental tobacco smoke (ETS) exposure among preschool-aged children with allergic symptoms in homes in Singapore.

Cigarette Smoke Exposure Impairs Dendritic Cell Maturation and T Cell Proliferation in Thoracic Lymph Nodes of Mice


PURPOSE OF THE STUDY. Airborne antigens are processed and presented by respiratory tract dendritic cells (DCs). The purpose of this study was to determine the consequences of cigarette-smoke exposure on DC function in mice.

METHODS. Mice were exposed to cigarette smoke 5 days per week for 1 month. There was also a control group of